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## The future role of technology and medical devices in the European healthcare paradigm shift: Implications for R&D strategies, funding and user involvement

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Most western healthcare systems are geared towards addressing health problems and not preventing them. This has a high price in terms of costs, facilities and manpower. An increase in general life expectancy, but a relative decrease in the number of years lived in good health. Increasing care costs and a cut in half of the number of workers compared to the number of those dependent on care by 2020 has made the current healthcare system unsustainable. The policy actions of many countries to anticipate the consequences of an ageing population, the increasing numbers of chronically ill people and non-adequate care systems is threefold.

1. Raising the retirement age to reinforce labor participation
2. Increasing healthy life expectancy
3. Restructuring the systems for healthcare.

In what is referred to as an Integrated Care Model by the European Commission, long-term care, prevention and the role of the community will be outlined. Technology is indispensable in achieving these goals in an efficient and affordable manner. Examples provided with regard to prevention, care and cure: Tablets, smart phones en smart TVs create opportunities for a healthy lifestyle, self-management, domotica, diagnosis, intervention and monitoring. Data from laboratories, patient records, medication, image building, financial data, personal information via the Internet and the use of social media provide us with an information stream, which could be effectively applied to consumers, commercial activities and care. The focus of current European subsidy programs shifting from fundamental research to market-oriented trends and care innovation, which is reminiscent national policies in which knowledge institutions, government and the business sector create solutions intended to yield added value for science, society and business. Horizon 2020 is the corresponding program intended to make Europe “socially sustainable and competitive” by keeping healthcare affordable through innovation. The strategy of the European Commission is “top-down” but citizens and their community as designers of local society are an important factor. The local community as a “living lab” will be the most relevant environment in which designers, engineers, scientists, businesses and consumers of care and welfare products and processes can develop further.

### Biography

Nick Guldemond was trained in Engineering (electric engineering) and Medicine (clinical physiology). He obtained his PhD with a focus on orthopaedic complications due to diabetes. He worked at various universities and hospitals as researcher, coordinator and principal investigator in projects regarding healthcare innovation, medical technology and eHealth. As founder and CEO of the ‘Medical Field Lab’ he received great acknowledgement for creating business through public private partnerships by the Ministry of Economical Affairs. He is currently Associate Professor Integrated Care & Technology and Chief Innovation Officer at the University Medical Centre Utrecht. He is advisor for the Dutch House of Representatives and board member of the Innovative Medical Device Initiative IMDI.nl and member of the commission on the national eHealth implementation agenda. He is coordinator of the European Commission program EIP-AHA A2 Action Group Falls Prevention (180 organizations across the EU) and associated with European thematic networks ProFouND, E-NO-FALLS.

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